

Applicant : Bruce B. Roesner, Ph.D.  
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### REMARKS

Claims 1-28 are pending, with claims 1, 15, 19, and 27 being independent.

Reconsideration and allowance of the above-referenced application are requested.

Claim 1 stands objected to for an informality. Claim 1 has been amended to correct this informality.

The indication of allowable subject matter in claims 6-12, 20-23 and 28 is acknowledged and appreciated. The claims are retained.

Claims 1-4, 15-16 and 27 stand rejected under 35 U.S.C. 102(b) as allegedly being anticipated by Kruest (US 5,963,144). This contention is respectfully traversed.

Independent claim 1 recites, "control logic that initiates a deep sleep state in response to an event, the deep sleep state comprising a non responsive state that is independent of supplied power, and the control logic providing a following state entered upon conclusion of the non responsive state, wherein communications initiate from the following state." (Emphasis added.) Kruest fails to teach or suggest the claimed following state. In fact, Kruest provides no details regarding any state of operation of the disclosed Radio Frequency Identification (RFID) tag, except for the CLOAK state.

Activating the CLOAK state in Kruest involves activating a series switch to disconnect an antenna of a passive RFID tag for a predetermined time period. "Activation of the switch disconnects the antenna of the RFID tag from the remainder of the RFID chip and effects a high impedance resistance across the antenna terminals. An RC circuit is charged by activation of the CLOAK signal and thereafter discharges during a predetermined RC time period as determined by a high impedance series antifuse leakage transistor. The antenna is thus disconnected for a

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time sufficient to allow the remaining RFID tags in an RF interrogation field to be identified. Meanwhile, during the disconnection of the antenna from the RFID chip and its loading causes its effective absorption and scattering aperture to be reduced near zero so as to electromagnetically remove the RFID tag from the zone of interrogation during the predetermined time period. Hence, the interrogated tag remains disconnected and noninterfering with the RF field used to interrogate the remaining tags." (See Kruest at col. 2, line 62 to col. 3, line 13.) Thus, Kruest seeks to keep the RFID tags inactive and noninterfering with the RF field long enough to allow for interrogation of all the tags in the RF field. Kruest provides no details regarding any communication states entered after conclusion of the CLOAK state.

Dependent claim 2 provides additional details of the claimed following state by reciting, "the following state comprises an initial communication state from a plurality of communication states, wherein the plurality of communication states allow response to a sequence of associated commands when receipt of the command sequence begins in the initial communication state." Kruest says nothing about multiple communication states or a sequence of associated commands that are responded to when receipt of the command sequence begins in the initial communication state. In fact, Kruest may not prevent an RFID tag from waking up too early and jumping into tag reader communications at an inappropriate time, such as may happen when the number of tags is so large that the first read tag comes out of the CLOAK state before all remaining tags in the field have been interrogated.

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In contrast, the presently claimed subject matter can prevent a tag from jumping into the middle of current tag-reader communications. "By preventing the tag 100 from becoming active in the middle of communications between the reader and other tags, the deep sleep state can be used in passive RFID communication and management protocol(s) to reduce interference among tags being read and increase the efficiency of a tag reader system." (See present specification at paragraph [0025] and also at paragraph [0032].) The art of record fails to disclose the claimed "following state" to promote the above-described advantages for the combined system.

With respect to independent claims 15 and 27, the above points are equally applicable. In particular, for claim 15, the art of record fails to disclose, "receiving power in a passive radio frequency identification tag; receiving commands in a command structure in the passive radio frequency identification tag; and entering a deep sleep state in the passive radio frequency identification tag, the deep sleep state comprising a reset of the command structure and a non responsive state that is independent of supplied power." (Emphasis added.) For claim 27, the art of record fails to disclose, "means for receiving power and commands in a command structure; and means for entering a deep sleep state comprising a reset of the command structure and a non responsive state that is independent of supplied power." (Emphasis added.) Nothing in Kruest describes a reset of a command structure.

Thus, claims 1, 2, 15 and 27 are patentable and should be in condition for allowance. Claims 3, 4 and 16 each depend from an allowable base claim for the reasons discussed above. As such, it is respectfully suggested that these claims are allowable.

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Claims 5, 14 and 17-18 stand rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Kruest as applied to claims 1 and 15 above and further in view of Wood, Jr. (US 6,104,333). Claim 13 stands rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Kruest as applied to claim 1 above and further in view of Alicot et al (US 5,990,794). These contentions are respectfully traversed.

These claims each depend from an allowable base claim for the reasons discussed above. Neither Wood nor Alicot cure the defects of Kruest. As such, it is respectfully suggested that these claims should be allowable. Additionally, a prima facie case of obviousness has not been established for claims 5, 14 and 17-18 because there is no motivation to combine Kruest with Wood as proposed, and there is no reasonable chance of success for the proposed combination, as discussed in detail below.

The Office Action suggests that combining Kruest with Wood could result in, "wherein the non responsive state concludes in response to a first occurring event from events comprising receipt of a wake command and internal cessation of the non responsive state" (as recited in claim 5), and also result in, "leaving the deep sleep state in response to a first occurring event from events comprising receipt of a wake command and internal cessation of the non responsive state" (as recited in claim 17). This suggestion fails to account for the fact that during the non-responsive state, in Kruest, the antenna is disconnected from the RFID chip and the effective absorption and scattering aperture are reduced to "near zero so as to electromagnetically remove the RFID tag from the zone of interrogation during the predetermined time period. Hence, the

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interrogated tag remains disconnected and noninterfering with the RF field used to interrogate the remaining tags." (See Kruest at col. 2, line 62 to col. 3, line 13.)

The RFID chip in Kruest is incapable of receiving any commands while in the CLOAK state. Thus, the proposed combination of Kruest with Wood is not technically possible.

Claims 19 and 24 stand rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Kruest in view of Shafer (US 5,942,978). Claim 25 stands rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Kruest in view of Shafer as applied to claim 19 above and further in view of Atkins (US 6,661,336). Claim 26 stands rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Kruest in view of Shafer and Atkins et al as applied to claim 25 above and further in view of Alicot et al. These contentions are respectfully traversed.

Independent claim 19 is patentable for at least the same reasons given above with respect to claims 1, 2, 15 and 27. In particular, the art of record fails to teach or suggest, "a radio frequency identification (RFID) tag reader that sends commands including at least one sequence of associated commands used to identify an RFID tag on an article; and multiple passive RFID tags, each tag being attached to an article and each tag comprising a radio frequency sub system and control logic coupled with the radio frequency sub system, wherein the control logic resets tag communications and initiates a non responsive state in response to at least one event, the non responsive state being independent of supplied power, and the control logic responds to a wake command but ignores other commands in the command sequence while the tag is in the non responsive state, and the wake command response concludes the non responsive state."

(Emphasis added.) In contrast, the RFID tag of Kruest is not physically capable of responding to

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a wake command while in the CLOAK state because the antenna is disconnected from the control logic. Thus, claim 19 is patentable over the art of record, and dependent claims 24-26 are patentable based on at least the above arguments.

It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific issue or comment does not signify agreement with or concession of that issue or comment. Because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

It is respectfully suggested for all of these reasons, that the current rejection is overcome, that none of the cited art teaches or suggests the features which are claimed, and therefore that all of these claims are in condition for allowance. A formal notice of allowance is thus respectfully requested.

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No fees are believed due with this response. Please apply any necessary charges or credits to deposit account 06-1050.

Respectfully submitted,

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